

# Collaborating to Mitigate Risk

*The tools that guide the process.*

by LCDR TONY MAFFIA

*Visual Navigation Signals Management Policy Manager  
U.S. Coast Guard Visual Navigation Division*

MR. GEORGE H. DETWEILER, JR.

*Marine Transportation Specialist  
U.S. Coast Guard Marine Transportation Systems Management Directorate*

MR. BURT LAHN

*Marine Transportation Specialist  
U.S. Coast Guard Marine Transportation Systems Management Directorate*

The United States Coast Guard Office of Marine Transportation Systems Management develops and implements policies and procedures that facilitate commerce, improve safety and efficiency, and inspire dialogue within the maritime community to make our waterways safe, efficient, and commercially viable. One way we do this is by establishing risk baselines that guide our decisions. Three tools that guide these efforts:

- ports and waterways safety assessments,
- waterways analysis and management system studies,
- port access route studies.

## **Ports and Waterways Safety Assessments**

The Coast Guard established the ports and waterways safety assessment (or PAWSA) process to address waterway user needs and place a greater emphasis on partnerships with industry. The process involves convening a group of waterway users and stakeholders and conducting a structured workshop to elicit their opinions.

The primary objectives:

- improve coordination and cooperation between government and the private sector by involving stakeholders in decisions affecting them;
- develop and strengthen harbor safety committees;

- support Coast Guard responsibilities in waterways management and environmental stewardship;
- provide input for projects related to aids to navigation, regulations, or other risk mitigation measures, including potential vessel traffic management projects.

PAWSA workshops can establish a baseline of waterways for vessel traffic system consideration and allow the local host—typically a sector commander or marine safety unit commanding officer—to interact with the local waterway community to evaluate risk and work toward long-term solutions tailored to local circumstances.

The USCG has conducted dozens of formal PAWSA workshops, and the process represents a significant part of joint public-private sector risk mitigation planning. The Coast Guard uses this input to establish or relocate aids to navigation, adjust VTS reporting requirements, and implement regulatory changes.

## **Waterway Analysis and Management System Study**

Our nation's waterways contain more than 100,000 aids to navigation—the buoys and beacons that provide visual, electronic, and audible signals to maritime transportation system users. A waterway analysis and management system study helps Coast Guard water-

*continued on page 24*

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE <b>2011</b>		2. REPORT TYPE		3. DATES COVERED <b>00-00-2011 to 00-00-2011</b>	
4. TITLE AND SUBTITLE <b>Collaborating to Mitigate Risk: The tools that guide the process</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>U.S. Coast Guard, Visual Navigation Division, 2100 2nd Street SW, Washington, DC, 20593-7580</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>3</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			

## Recent PAWSA Success Stories

### Waterway Conditions



**Electronic charting system.** In 2009 PAWSA workshops for Houston-Galveston and Honolulu, Hawaii featured an electronic charting system that replaced paper navigational charts used during previous workshops. This allowed workshop facilitators to more effectively communicate statistical information, including plotting the locations of vessels involved in marine casualties (collisions, allisions, and groundings), providing a clear depiction of “trouble spots” in a waterway. This system is now in effect for all PAWSA workshops.

### Navigational Conditions



Electronic charting system images allow PAWSA workshop facilitators to more effectively communicate statistical information. USCG graphic.

### All Risk Factors



**ATON awareness.** In 2010, a Savannah, Ga., PAWSA workshop focused on assessing the aids to navigation (ATON) infrastructure in the Savannah River and its approaches. Workshop participants reviewed individual segments of

the waterway in detail as they answered a series of questions about the usefulness, location, and functionality of the ATON system. Their input will form the basis of future aids to navigation configuration in the waterway.

way managers review and improve the ATON system in a particular waterway.

**For more INFORMATION:**

**PAWSA**

[http://www.navcen.uscg.gov/  
?pageName=pawsaMain](http://www.navcen.uscg.gov/?pageName=pawsaMain)

**PARS**

(202) 372-1566

**WAMS**

(202) 372-1547

**U.S. Coast Guard**

**Navigation Center website:**

<http://www.navcen.uscg.gov>

The system study evaluates the aids to determine their effectiveness, which can lead to altering technical aspects of an aid, establishing new aids, or removing ineffective aids. Most important: The study incorporates the perspectives of major and/or frequent waterway users to identify the most effective aid mix while anticipating needs for the future demands of a particular waterway.

**Port Access Route Studies**

Our ports support a tremendous amount of activity. Cargo vessels arrive each day in American ports and may travel from port to port; commercial and recreational fishermen transit ports on their way to and from fishing grounds; other recreational and commercial vessels add to the traffic. Permanent structures such as oil rigs and offshore renewable energy installations may affect port traffic, and areas like designated marine sanctuaries also must fit into this mix.

To manage this, the Coast Guard may designate or adjust necessary fairways and create traffic separation schemes to provide safe access routes. Through the port access route study process, the Coast Guard consults with affected Native American tribes as well as federal, state, and foreign state agencies (as appropriate) and

considers the views of maritime community representatives, environmental groups, and other interested stakeholders.

The objectives:

- determine present and potential traffic densities,
- evaluate existing vessel routing measures,
- justify new vessel routing measures and their type,
- determine any mandatory vessel routing measures for specific classes of vessels.

This process helps to ensure, to the extent practicable, that the need for safe access routes is reconciled with other reasonable waterway uses. In addition to aiding the Coast Guard to establish new fairways or adjust existing ones, the process may be used to determine and justify safety zones, security zones, recommended routes and other routing measures, and to create regulated navigation areas.

Port access route studies continue to identify critical changes in maritime traffic volumes or routes, and allow the Coast Guard to implement sound vessel routing measures to ensure safe passage in the off-shore approaches to our nation's ports and harbors.

**About the authors:**

*LCDR Tony Maffia is currently stationed in the Marine Transportation Systems Management Directorate Visual Navigation Division at U.S. Coast Guard headquarters. He has 14 years of Coast Guard experience, including seven years of sea time on four Coast Guard cutters—including two tours as executive officer and an 11-month deployment in support of Operations Iraqi and Enduring Freedom in 2003. He enlisted in the U.S. Coast Guard in 1997 and is a 2000 graduate of Officer Candidate School.*

*Mr. George H. Detweiler, Jr., retired from the U.S. Coast Guard after more than 20 years of service. He is currently a marine transportation specialist in the Marine Transportation Systems Management Directorate at USCG headquarters. His major projects have included conducting port access route studies, creating ships' routing measures, reviewing offshore renewable energy installation proposals, and conducting tribal consultations.*

*Mr. Burt Lahn is a marine transportation specialist in the Office of Navigation Systems, serving as a project officer within that office since 2002 and as the PAWSA program manager since 2008. Mr. Lahn is a retired USCG lieutenant commander, having completed 24 years of active duty service. With over 20 years of service in the Coast Guard's marine safety program, he has extensive experience in vessel inspections, marine casualty investigations, and oil and hazardous materials response operations.*